Inflation targeting

Address by Governor Svein Gjedrem, Gausdal, January 2003

The address is based on the assessments presented at Norges Bank's press conference following the Executive Board's monetary policy meeting on 22 January and on previous speeches. Please note that the text below may differ slightly from the actual presentation.

The Norwegian economy exhibited strong growth from 1993 until 1998. This recovery brought the economy out of recession into a period of high economic activity.

Growth in the mainland economy in the 1990s averaged over 3 per cent. Inflation was low and stable at around 2½ per cent annually, while it was higher than 8 per cent in the 1980s.

At the same time, total employment rose sharply. The unemployment rate, measured by the LFS, fell from close to 6 per cent in 1991 to almost 3 per cent in 1999.

Later in the 1990s, unemployment declined as long as wage growth in Norway was lower than wage growth among our trading partners. This came to a halt in 1998. The rise in salaries for white-collar workers accelerated and the social partners rejected a policy of wage moderation. Unemployment stopped falling.

At the beginning of the 1990s, the economy was in a deep recession. Production was well below capacity. When growth in the economy picked up, capacity utilisation increased. The output gap[1], according to our methods of calculation, was closed around 1996. Thereafter, cost inflation and the rise in prices for goods and services produced for the domestic market accelerated. The upturn reached its peak in 1997, with GDP growth approaching 5 per cent.

The pace of such a strong upturn could not be sustained. In 1997 and 1998 the economy shifted from an upturn with high growth rates to an expansion with lower growth but low unemployment, labour shortages in many sectors and strong growth in labour costs.

Many other countries also experienced a period of strong expansion in the 1990s. Economic growth in the US was particularly high. New technology generated optimism and laid the basis for strong investment growth. At the same time, wage growth and inflation remained low. Equity prices, however, rose sharply just before the turn of the millennium, particularly in the US, but also in many other countries.

The optimism spread to Norway, where equity prices also rose. The level of activity was very high in the securities market, among corporate lawyers, consultancies and in the ICT industry.

High oil prices through most of the 1990s resulted in buoyant investment activity and growth in operating expenses in the petroleum sector. With substantial government tax revenues, expectations concerning the use of petroleum revenues also rose. It became increasingly challenging to keep pressures in the economy at bay by means of fiscal policy.

The response to this challenge was the revision of economic policy in spring 2001. The most important policy change was the strategy for the phasing in of petroleum revenues - the so-called fiscal rule. An inflation target for monetary policy was introduced at the same time. The revision came after four years of strong economic expansion and high growth in labour costs, pressures to spend petroleum revenues and high household credit growth.

Norges Bank has one instrument: the interest rate. It is set to achieve the operational target for monetary policy - an inflation rate of 2½ per cent over time. An increase in the interest rate will normally contribute to reducing inflation by curbing demand for goods and services and by strengthening the krone against other currencies. An interest rate reduction has the opposite effect.

Inflation targeting means that monetary policy contributes to smoothing fluctuations in the economy. This implies that the interest rate is increased in response to pressures in the economy and a risk of higher inflation, and that the interest rate is reduced when growth is sluggish and the outlook points to lower inflation. This objective is also expressed in the Regulation on Monetary Policy.

The effect of the interest rate on inflation is uncertain and may vary over time. Its impact is partly dependent on the debt rate in the private and public sectors, the situation in the labour market and the impact of a change in the interest rate on the exchange rate. The effect of interest rate changes on the exchange rate may vary according to external conditions, such as foreign interest rates, required rates of return and risk premiums in international financial markets.

If interest rate changes are to have the intended effect, confidence in monetary policy among financial market participants is an important precondition. Without such confidence, it is not possible to predict the impact of monetary policy on the real economy or on inflation.

The difference between expected short-term rates in Norway and Germany 10 years ahead is a measure of confidence in monetary policy. In the period following the introduction of the inflation target, long-term forward rates have largely been around 1 percentage point higher than in Germany. Between ½ and 1 percentage point can probably be ascribed to Norway's inflation target, which is higher than the price stability objective for the euro area. The narrow differential between Norwegian and German forward rates indicates that there is confidence that the inflation target will be achieved. If this confidence did not exist, the forward rate differential would probably have been far wider.

The forward rate differential against Germany has narrowed somewhat recently to around ½ percentage point. German forward rates have risen, while Norwegian forward rates have been more stable. The forward rate differential between the US and Germany is now close to zero. This may be related to greater uncertainty as to developments in the German economy.

The mandate for monetary policy with an inflation target provides a sound basis for assessing Norges Bank's interest rate setting.

According to the regulation, the direct effects on consumer prices resulting from changes in interest rates, taxes, excise duties and extraordinary temporary disturbances shall in general not be taken into account. This means that monetary policy must be oriented towards bringing underlying inflation, adjusted for the deviations mentioned above, close to 2½ per cent. An adjusted index such as this will be most relevant when assessing the orientation of monetary policy in retrospect.

The most common indicator of underlying inflation - the consumer price index adjusted for tax changes and excluding energy products (CPI-ATE) - has shown a year-on-year increase of between 1.8 per cent and 2.7 per cent since the inflation target was introduced. In December, the last observation to date, the year-on-year rise was 1.8 per cent.

When we report on the implementation of monetary policy, as in our Annual Report sent to the Ministry of Finance for submission to the King and communication to the Storting, we will place particular emphasis on analysing the reasons for deviations from the target that exceed +/- 1 percentage point.

When the inflation target was introduced, the economy was marked by pressures in the labour market, high cost inflation, considerable optimism among households and enterprises and high expectations of increased use of petroleum revenues in the public sector. Norway introduced an inflation target almost two years ago. Today's inflation is therefore to a considerable extent influenced by the policy we pursued following the revision of economic policy on 29 March 2001. Developments have provided further evidence that monetary policy is an effective instrument against inflation. Inflation is low even though wage growth is unusually high. Monetary policy is working.

The underlying rise in prices has slowed in recent months, down to 2.0 per cent in the fourth quarter of 2002. The projection for the underlying rise in prices in that quarter was revised down in autumn 2001, from 2.5 per cent to 2.1 per cent. Since then, our projections have varied between 2.0 and 2.2 per cent. The inflation projections for the fourth quarter of 2002 have been relatively stable since the end of 2000 and close to the actual level of inflation. The low level of inflation is closely related to specific economic developments that have taken place over the past two years.

Three important disturbances have influenced the 22 months of inflation targeting that lie behind us: strong wage growth, the global downturn and a considerable appreciation of the krone.

The wage settlement in 2002 resulted in the highest increase in real wages in a generation.

After the wage settlement last year, we projected annual wage growth in 2002 of between 5½ and 6 per cent. Wage growth in 2002 was far higher than expected. Substantial pay increases were also agreed on for 2003. The various groups achieved very different results, increasing the risk of wage-wage spirals. The outcome of last year's wage settlement may be an indication that the social partners considered the labour market to be very tight this spring.

There is little new information about wage developments since the wage settlement last year. Agreements have been concluded awarding high pay increases to seamen and doctors. We may have underestimated the growth in salaries for white-collar workers last year, but there is also some anecdotal evidence to suggest that during the autumn large companies and law and consultancy firms tightened cost control.

Since 1998, wage growth in Norway has been markedly higher than that of our trading partners. Until spring 2001, the monetary policy objective implied that, over time, wage growth had to be reduced to the level in Europe. The inflation target of 2½ per cent implies that wage growth over time can hover around 4½ per cent. This takes into account that productivity growth in Norway has been around 2 per cent over the past twenty years. If wage growth is higher than 4½ per cent, monetary policy generally has to be tight in order to counter inflation. This will normally lead to deteriorating competitiveness in the business sector. If wage growth is lower than 4½ per cent, monetary policy normally has to be eased to counter inflation that is too low. This can result in a weaker krone and an improvement in competitiveness in the business sector.

The difference between current wage growth and the long-term equilibrium level of 4½ per cent can be referred to as the wage gap for the Norwegian economy.[2] This wage gap also provides an indication of pressures in the real economy, not unlike the measures of the output gap shown earlier. As illustrated, there tends to be a correlation between the wage gap and the output gap. The output gap can be an expression of our assessment of pressures in the economy. The wage gap can be a more direct indication of the social partners' perception of the situation. This provides useful information in interest rate setting. Moreover, wage figures and wage growth estimates in real time are considerably more reliable than preliminary national accounts figures for output and demand that are used to estimate the output gap, which tend to be subject to substantial revision. The wage growth estimates drawn up by Norges Bank early last summer, just after the income settlements, underestimated the increase by 0.16 percentage point, with small deviations, on average for the period 1995-2001. On the other hand, the wage gap is a lagging indicator. Wage growth in any one year has been heavily influenced by economic developments in the preceding 12-18 months. When we look at future prospects, a good estimate for the output gap can therefore provide a better indication of the outlook for wage and price inflation. Both these simple measures are based on stylised assumptions concerning productivity growth and must therefore be used with caution.

The high level of wage growth in 2002 implied a tight monetary policy. The interest rate differential against trading partners widened. The krone appreciated further.

Relationships in the foreign exchange market are unstable, but there are a number of fundamental forces that influence the krone.

High oil prices and the phasing in of petroleum revenues into the Norwegian economy are part of the explanation, but the predominant factor is probably the cyclical divergence between Norway and abroad.

The main explanation for the wide interest rate differential is not that interest rates are high in Norway, but that interest rates are at a historic low abroad. For example, interest rates have not been at such a low level in the US since the 1960s. Foreign interest rates have been reduced markedly to counter a downturn, while Norway has featured labour shortages, high income and consumption growth and a more normal interest rate. Low volatility in foreign exchange markets has probably amplified the effect of a wide interest rate differential. Furthermore, equity prices have shown a pronounced decline over close to 2½ years and investors have been seeking alternative investment vehicles.

The appreciation of the krone in the first half of last year gradually changed the inflation outlook. In isolation, this implied a reduction in interest rates. However, the Norwegian economy was also exposed to high pay increases last spring, which had the opposite effect.

In this situation, if monetary policy were to give priority to short-term inflation considerations, we could perhaps have reduced the interest rate last summer. But this would have led to fluctuations in output and employment. Household and enterprises might have continued to increase their borrowing. In addition, we might have been confronted with waning confidence in financial markets and a weaker krone. Once the effects of high wage growth had fed through to prices and pushed up inflation, the interest rate would have been raised irrespectively, perhaps to a higher level than has been the case. The end result of such a policy would have been wider fluctuations in aggregate demand, output and employment.

As the inflation target gains confidence and credibility also among the social partners, the interest rate will make an even greater contribution to stability in the real economy. Overall employment is influenced by wage formation. Monetary policy cannot prevent an increase in unemployment that is caused by a wage-driven cost shock.

In spite of last year's high wage growth, the interest rate was only raised by 0.5 percentage point last summer. Later in the year, the interest rate was reduced, primarily as a result of weak external economic developments that led to a reduction in interest rates abroad, thereby widening the interest rate differential. The global downturn and the strengthening of the krone have had a dampening impact on the Norwegian economy. When cyclical developments in Norway and abroad again converge, interest rates in Norway will be closer to the level abroad. This may also bring the krone back to a more normal level. Today's particularly strong krone must also be seen in connection with the stock market decline, high oil prices and fears of war in Iraq. The very low level of interest rates among trading partners reflects an environment of sluggish growth, high unemployment and a risk of a prolonged downturn with deflation. This is a situation that we must strive to avoid.

The direct effect of the global downturn on overall growth in the Norwegian economy has so far been limited. This is partly attributable to high oil prices and the high level of activity in the oil sector. However, as a result of the interest rate differential and the strong krone, the global downturn will have a substantial impact on Norwegian business and industry.

The government's use of petroleum revenues or expectations of increased spending of petroleum revenues may have contributed to sustaining activity and the strong krone. Increased use of petroleum revenues over the central government budget is stimulating demand for goods and services. This will intensify the contest for economic resources and pressures in the business sector.

The exchange rate may move more in the short term than is necessary in the long term. One reason may be that the krone has to overshoot its long-term level since market participants will weigh the interest rate differential against the possibility of a future depreciation of the krone. However, we may also have seen an extra wave in the exchange rate if market participants are basing their expectations on higher government spending of petroleum revenues than implied by the fiscal rule. Given the current level of the exchange rate, it would appear that foreign exchange market operators have been expecting a substantial increase in the use of petroleum revenues. Fiscal policy discipline will therefore be of importance to the krone exchange rate.

According to the guideline for fiscal policy, the central government budget deficit shall over time be equivalent to the expected real return on the Petroleum Fund. The fiscal rule is robust to fluctuations in government revenues and provides a stable framework for economic developments.

The fiscal rule has been adhered to. In the budget for 2003, petroleum revenue spending was indeed somewhat higher than 4 per cent of the Petroleum Fund. This was because the estimated value of the Petroleum Fund at the end of 2002 was markedly reduced through the year as a result of the sharp decline in equity prices and the appreciation of the krone. Spreading the use of revenues in this way is in line with the fiscal rule as it has been formulated.

As a result of the change in the inflation outlook two years ahead, Norges Bank's Executive Board decided to reduce the key rate by 0.5 percentage point, to 6.0 per cent, on 22 January. In its assessment of the inflation outlook, Norges Bank pointed out that the krone has strengthened since the October *Inflation Report* and that it was 3 per cent stronger than the assumption underlying the baseline scenario. We also cited fears of war and high oil prices, a weak and unsteady global recovery, higher electricity prices, lower optimism among households and the prospect of lower growth in private consumption than previously projected. We also pointed out that we had not yet seen the full impact of high wage growth and a strong krone on employment in enterprises that are heavily exposed to international competition.

On balance, developments point to low inflation in the period ahead. According to Norges Bank's assessment, with an interest rate of 6.0 per cent, the probability that inflation two years ahead will be lower than 2½ per cent is greater than the probability that it will be higher.

The global recovery is weak and unsteady. Growth forecasts for our trading partners were revised downwards in the course of last year. The situation has been marked by fears of war in Iraq over a longer period.

In the US, consumer confidence has weakened since the autumn of 2000. Growth in the US has been sustained over the last year, fuelled by low interest rates, an expansionary government budget and growth in private consumption. Business investment and net exports have made a negative contribution. A new package of measures, including tax cuts and higher government transfers, has recently been presented in order to stimulate the US economy and prevent a recession. However, growth in the US will probably remain low this year.

Monetary policy in Europe has become more expansionary. Since the presentation of Norges Bank's *Inflation Report* on 30 October, key rates have been reduced by 0.5 percentage point in Sweden and the euro area. The outlook for the euro area is still not very encouraging. In particular, industrial confidence has been weak for some time.

There are also signs of stagnation and low growth in the Norwegian economy. The chart shows the contribution from net exports to activity in the mainland economy. We see that this component curbed growth in mainland Norway by about ¾ percentage point, from a positive contribution of a good 1 percentage point in 1999. In contrast to the situation in the mid-1990s, when high imports contributed to weak net exports, our export industries are now being affected. Traditional merchandise exports fell towards the end of last year. Export prices have also declined somewhat, reducing corporate profitability. A strong krone and high domestic demand have also contributed to the continued rise in imports.

Last autumn, our regional network reported lower activity in some manufacturing sectors and low growth in manufacturing production for the home market. In addition, there is no growth in sectors supplying services to the business sector. On the other hand, the level of activity in retail trade and services for households is higher. Companies are reporting lower employment in manufacturing, but higher demand for labour in retail trade.

Unemployment has edged up over the last six months. There was little increase in manufacturing up to end-2002. Unemployment has primarily risen in services, communication and the IT sector. However, an increase in manufacturing unemployment was observed in January. Manufacturing unemployment is expected to edge up in the period ahead. Moreover, the high pay increases awarded in last year's settlements have consumed a large share of the growth in allocations to government agencies. As a result, employment is not likely to show strong growth in this sector in 2003.

Growth in the Norwegian economy was sustained by a strong increase in household consumption through 2002. In line with expectations, the sharp rise in real wages fuelled particularly high consumption growth last autumn.

There are now signs that the strong growth in consumption may be slowing. Household expectations are lower than earlier and expectations concerning their own financial situation have also fallen markedly.

Household borrowing is remains high and the debt burden is still on the rise. Growth in credit to households has slowed in recent months, but growth remains at a double-digit level. On the other hand, the sharp rise in house prices in recent years seems to be levelling off. This may also result in lower credit growth through the winter and spring.

The sharp rise in electricity prices may lead to lower growth in consumption this year. Higher electricity expenses reduce household purchasing power. Many enterprises will also be facing higher costs. On the other hand, high electricity prices generate revenues for central and local government.

Higher electricity prices will result in a sharp increase in the consumer price index this winter. The year-on-year rate of increase in the consumer price index may approach 4 per cent in January and February. Underlying inflation will also be affected. For example, this can be the result of higher rents and higher costs in some business sectors. However, these effects can to a large extent be disregarded. Assuming that weather conditions remain fairly normal over the next year, the rise in prices at the same time next year will be that much lower. Electricity prices will then make a comparable negative contribution to overall inflation.

Conclusion

In retrospect, developments over the past decade feature several elements of a normal business cycle. Following a long period of expansion in the 1990s, the economy is stagnating as a result of overheating in the labour market, high wage growth and high borrowing in the private sector.

The new guidelines for monetary policy were introduced in March 2001 when there were pressures in the economy, expectations of increased use of petroleum revenues and growing divergence between cyclical developments in Norway and abroad. Today, after close to two years of inflation targeting, experience shows that monetary policy has an impact on inflation. In this respect, the experience has been uplifting.

Future developments are uncertain. Our internationally exposed sectors may be hard hit because this time the tightening has to a large extent been the result of a strong krone and a downturn in our export markets. It may take time to address the problems associated with wage formation after last year's wage settlement. The oil market is volatile, influenced by fears of war in Iraq and political unrest in Venezuela. Our main impression is nevertheless that the economy will grow in the period ahead, albeit at a somewhat slower pace. When cyclical developments in Norway and abroad again converge, interest rates in Norway will be closer to the level abroad. The krone will then also return to a more normal level. The effects on the krone of the extraordinary situation in the oil market will also pass.

References:

Frøyland, E. and R. Nymoen (2000): "The output gap in the Norwegian economy - different methodology, same result?" *Economic Bulletin* 2/2000, Norges Bank

Olsen, K., J.F. Qvigstand and Ø. Røisland (2003): "Monetary policy in real time. The role of simple rules". To be published in *BIS papers*. Bank for International Settlements

Footnotes

1. The output gap, which is a reflection of capacity utilisation in the economy, is measured by different methods: the trend GDP method (the HP method) and the potential GDP method (the production function method). When using the HP method, adjustments are made for the increase in vacation days in 2001 and 2002. This is also taken into account when applying the production function method. The output gap is zero if aggregate output is equivalent to the level of activity that can be achieved over time without generating a rise in price and cost

inflation. A positive output gap indicates a level of activity that fuels pressures on economic resources and rising price and cost inflation. (See for example Frøyland and Nymoen (2000) and Olsen, Qvigstad and Røisland (2003) for more on the output gap.)

2. The wage gap is calculated as the difference between the rise in labour costs in manufacturing in Norway and 4.5 per cent. The wage gap is calculated as the difference between the rise in labour costs in Norway and trading partners in the years prior to 2001.